

Section 17 — The Electron Lattice: ϕ^6 Buoyancy, Mirror States, and Tunneling Geometry

Section 17 formalizes the FUNt mathematical description of the electron lattice. Unlike the proton's torsional ϕ^7 -anchored GPL, the electron lattice is a buoyant, low-strain ϕ^6 -dominant structure with high mobility, rapid phase relocation, and natural tunneling behavior. This section establishes the complete geometric, harmonic, and inversion framework governing electron identity, motion, and resonance coupling.

17.1 Definition of the Electron Lattice

- The electron lattice is the lowest-inertia harmonic structure in baryonic physics.
- Its geometry is buoyancy-dominant, not torsion-dominant.
- The fundamental anchoring band is ϕ^6 , one harmonic below the proton's ϕ^7 .
- Its low anchoring allows phase relocation (tunneling) with minimal resistance.
- [Insert electron lattice diagram here]

17.2 ϕ^6 — The Buoyancy-Control Band

- ϕ^6 defines electron buoyant harmonics and breathing radius.
- Phase stability is low, allowing rapid harmonic transitions.
- This is why the electron is highly responsive to field modulation.
- Electron inertia is lowest of all three particles due to ϕ^6 anchoring.
- [Insert ϕ^6 buoyancy diagram here]

17.3 Mirror-State Window and Positron Symmetry

- Electron $\rightarrow$ positron inversion occurs at ϕ^8 .
- Mirror-state geometry corresponds to boundary reflection of the electron lattice.
- ϕ^8 defines pair-production resonance and annihilation symmetry.
- The electron-positron system is the simplest ϕ^8 mirror pair in FUNt.
- [Insert mirror-state diagram here]

17.4 Electron Tunneling Geometry

- Tunneling occurs when ϕ^6 buoyancy overcomes local field anchoring.
- Electron relocation is harmonic (phase shift), not spatial penetration.

- Barriers are traversed when $\Delta\varphi(t) > \Delta\text{anchor}(t)$.
- This explains universal electron tunneling without probabilistic collapse.
- [Insert tunneling diagram here]

17.5 Electron Scalar Threshold

- Electron enters scalar mode at φ^9 .
- Identity collapses into field-distributed state similar to proton scalar mode.
- Reentry occurs when φ -energy falls below φ^8 .
- This boundary explains rapid annihilation and recombination processes.
- [Insert electron scalar diagram here]

17.6 Coupling Between Electron and Proton Lattices

- Electron φ^6 lattice locks to proton φ^7 torsional lattice via φ -synchronization.
- Coupling determines orbital quantization at φ^6 – φ^7 intersections.
- Explains the electron–proton mass ratio without arbitrary constants.
- Defines the minimal-energy geometry of hydrogen shells.
- [Insert coupling diagram here]